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| <b>13. ABSTRACT (Maximum 200)</b><br><br>Military personnel need to be prepared for combat readiness at all times, as this is central to the mission of the United States Armed Forces. Combat readiness in military women creates a unique set of health care requirements. For adult females, feminine hygiene practices constitute health care practices based on physiological necessities for the management of elimination products, including urine, feces, and menstrual discharge. This study is designed to investigate and to make recommendations for female health practices carried out in combat and non-combat environments by military women. In order to determine the best procedure(s) for maintaining feminine hygiene in combat environments, it is necessary to explore past and current practices and to obtain the recommendations of health care professionals. Both quantitative and qualitative research methodologies will be used to explore feminine hygiene practices. Phase I, the qualitative section, has been completed and being used to format Phase II, the questionnaire. |   |  |   |  |
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COOPERATIVE AGREEMENT DAMD17-96-2-6025

TITLE: Combat Readiness: Hygiene Issues Related to Military  
Women

PRINCIPAL INVESTIGATOR: Barbara S. Czerwinski, Ph.D.

CONTRACTING ORGANIZATION: The University of Texas Health Science  
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Houston, Texas 77225

REPORT DATE: October 1997

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Fort Detrick, Frederick, Maryland 21702-5012

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FOREWORD

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\_\_\_\_ In conducting research using animals, the investigator(s) adhered to the "Guide for the Care and Use of Laboratory Animals," prepared by the Committee on Care and Use of Laboratory Animals of the Institute of Laboratory Resources, National Research Council (NIH Publication No. 86-23, Revised 1985).

 For the protection of human subjects, the investigator(s) adhered to policies of applicable Federal Law 45 CFR 46.

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\_\_\_\_ In the conduct of research utilizing recombinant DNA, the investigator(s) adhered to the NIH Guidelines for Research Involving Recombinant DNA Molecules.

\_\_\_\_ In the conduct of research involving hazardous organisms, the investigator(s) adhered to the CDC-NIH Guide for Biosafety in Microbiological and Biomedical Laboratories.

 23 Oct 97  
PI - Signature Date



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**RE: #H-5828 - COMBAT READINESS: HYGIENE ISSUES RELATED TO MILITARY WOMEN**

**APPROVAL VALID FROM 4/22/97 TO 4/22/98**

Dear Dr. Wilson:

The Institutional Review Board for Human Subject Research for Baylor College of Medicine and Affiliated Hospitals (BCM IRB) is pleased to inform you that your above referenced research protocol and consent form were approved according to institutional guidelines and provided they receive the unaltered approval of any other institutional committees in which your research is involved.

1. Continued review will be required
  - ☐ a. After each subject's exposure
  - ☐ b. Quarterly
  - ☐ c. Semi-annually
  - ☒ d. Annually
  - ☒ e. Change in Protocol
  - ☒ f. Development of unexpected problems or unusual complications
  - ☐ g. Other
2. Method of Review
  - ☒ a. IRB Renewal Form (IRB2)
  - ☐ b. New Protocol
  - ☐ c. Interview with principal investigator
  - ☐ d. Other

If a consent form is being used for this protocol, only the IRB approved (and stamped) version should be used for obtaining consent from potential study subjects.

Sincerely yours,

Kenneth L. Mattox, M.D., Chair  
Institutional Review Board for Human Subject Research  
for Baylor College of Medicine & Affiliated Hospitals



KLM:scr



The Committee for the  
Protection of Human Subjects

## NOTICE OF CONTINUING REVIEW APPROVAL

November 15, 1996

**HSC-SN-95-039** - " Combat Readiness: Hygiene Issues Related to Military Women"  
P.I.: Barbara Shelden Czerwinski, Ph.D.

**PROVISIONS:** Unless otherwise noted, this approval relates to the research to be conducted under the above referenced title and/or to any associated materials considered at this meeting, e.g. study documents, informed consents, etc.

**APPROVED:** At a Convened Meeting

**APPROVAL DATE:** November 15, 1996

**EXPIRATION DATE:** October 31, 1997

**CHAIRPERSON:** Anne Dougherty, M.D.

*Handwritten signature: R. H. H. H.*

Upon review, the CPHS finds that this research is being conducted in accord with its guidelines and with the methods agreed upon by the P.I. and approved by the Committee. This approval, subject to any listed provisions and contingent upon compliance with the following stipulations, will expire as noted above:

**CHANGES** - The P.I. must receive approval from the CPHS before initiating any changes, including those required by the sponsor, which would affect human subjects, e.g./ changes in methods or procedures, numbers or kinds of human subjects, or revisions to the informed consent document or procedures. The addition of co-investigators must also receive approval from the CPHS.

**INFORMED CONSENT** - Informed consent must be obtained by the P.I. or designee using the format and procedures approved by the CPHS. Attached is the approved and validated informed consent form. You must discard previous informed consent documents being used for human subjects and replace them with this stamped validated version. The P.I. must instruct the designee in the methods approved by the CPHS for the consent process. The individual obtaining informed consent must also sign the consent document.

**UNANTICIPATED RISK OR HARM, OR ADVERSE DRUG REACTIONS** - The P.I. will immediately inform the CPHS of any unanticipated problems involving risks to subjects or others, of any serious harm to subjects, and of any adverse drug reactions.

**RECORDS** - The P.I. will maintain adequate records, including signed consent documents if required, in a manner which ensures confidentiality.



**DEPARTMENT OF THE ARMY**  
**BROOKE ARMY MEDICAL CENTER**  
**FORT SAM HOUSTON, TEXAS 78234-6200**

5A

REPLY TO  
 ATTENTION OF

MCHE-CI

12 May 1997

MEMORANDUM THRU

Nursing Research. LTC Linda Yoder, AN, Department of Nursing, Brooke Army Medical Center, Fort Sam Houston, Texas 78234-6200  
 Chief, Studies Branch, Center Healthcare Education and Studies, AMEDD Center and School, Fort Sam Houston, Texas 78234

FOR LTC Cynthia A. Abbott, AN, Studies Branch, Center Healthcare Education and Studies, AMEDD Center and School, Fort Sam Houston, Texas 78234

SUBJECT: Application for Clinical Investigation Project

1. Your application for clinical investigation project "Hygiene Practices of Deployed Military Women: Phase I: An Exploratory Study" has been approved and is assigned work unit number C-97-78.
2. To meet FDA and DoD requirements for maintaining records of participation in clinical investigation studies and documentation of informed consent, the Department of Clinical Investigation (DCI) must maintain a copy of the "Explanation to the Patient/Explanation to Next-of-Kin" (DA Form 5303-R) for each protocol. As the principal investigator, you must maintain the original signed informed consent and forward a copy to the DCI for inclusion in DCI files.
3. As the principal investigator your responsibilities are as follows:
  - a. A change in the research plan must be reported to the DCI for submission to appropriate committees for approval prior to implementation.
  - b. If transferred or released from active duty, submit to the DCI the name of the individual who will continue the study.
  - c. If the study is terminated, submit a report to the DCI stating the study is terminated and the reason for termination.
  - d. If any serious adverse reactions occur during the study which were not expected, they must be reported to the Chief, DCI, within 24 hours.

5B

MCHE-CI

SUBJECT: Application for Clinical Investigation Project

4. An annual research progress report must be submitted to my office nlt 1 MAR 98 or upon completion, whichever comes first. Failure to comply could result in curtailment of funding for the project and/or termination.

*Heaven J. Smith*  
for JENICE N. LONGFIELD  
Lieutenant Colonel, MC  
Chairman, Institutional Review Board

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Over the past 20 years, the number of women in military service has steadily increased. The maintenance of military personnel in a state of combat readiness at all times is central to the mission of the United States Armed Forces. Combat readiness in military women creates a unique set of health care requirements. Indeed, epidemiological research has shown that military women deployed with a heavy armor division during the Persian Gulf War had an increase in vulvitis, vaginitis, and urinary tract infection (Hines, 1992).

For adult females, feminine hygiene practices constitute health care practices, based on physiological necessities for the management of elimination products that include urine, feces, and menstrual discharge. As a component of personal hygiene, feminine hygiene practices include bathing and drying of the entire body, cleansing associated with post-urination/defecation, cleansing the genitourinary area during menses, and providing for replacement and disposal of used menses management products (Czerwinski, 1991). The personal management practices of these bodily functions are not usually jointly addressed, especially as related to hand washing and menstrual cycle management.

The major outcomes of optimal feminine hygiene practices under combat conditions are hemostats maintenance and the prevention of vulvitis, vaginitis, and urinary tract infections, as well as toxic shock syndrome. The specific aims of this study are to identify feminine hygiene practices under combat conditions and to make recommendations for feminine hygiene practices requirements under combat and non-combat conditions to ensure the optimal health and combat readiness of female military personnel.

## Body

The first phase of the study involved answering the first two of five research questions proposed. The first research question addressed was what has been the experiences of maintaining feminine hygiene practices such as cleansing the body, collecting menses waste, and protecting against genitourinary infection in a combat environment. The second question addressed was what specific management strategies are recommended for feminine hygiene practices by health care professionals for military women in combat and noncombat environments. This question was expanded to include all military women, not just the health care professionals.

## Methods and Design

The research question was answered by using descriptive and qualitative methodology of focused interviews with women who had been deployed to combat environments. Theoretical sampling, which is based on the theoretical saturation of the categories that emerge from the data, was used to determine sample size (Glaser & Strauss, 1967). It was anticipated that approximately 15 to 20 combat veterans would be needed before no additional information would be generated and saturation would be reached.

Each branch of the military was approached to participate in the study. Both active duty and reserve forces women in the Air Force, Army, and Navy were included. Approval for this study was obtained from The University of Texas Houston Health Science Center Committee on the Protection of Human Subjects, the Veterans Administration Hospital Medical Center, and Brooke Army Medical Center at Fort Sam Houston, San Antonio, Texas.

Content analysis was conducted using the computer program of NUD.IST. This

allowed for the development of a theoretical structure for indexing, referred to as trees, which identifies various subthemes of "nodes" (Appendix A). This process is basically a deductive process proceeding from large categories to smaller and smaller "branches". In order to identify some of the themes surrounding the women's experiences around hygiene issues a more inductive approach was utilized which provided a collection of individual experiences that could then be identified as having emergent themes (Richards, Richards, McGalliard, & Sharrock, 1992). No specific qualitative methodology was utilized although the interviews did follow from a structured set of questions around hygiene to a more broad contextual view of health care needs.

### Sample

The sample included 34 women and was purposely drawn from women who had first hand deployment experience. More participants were needed than originally identified because of the women's varied experiences based on setting, rank, and duties, and the differences between the branches of the military.

The women volunteered to participate and were given no compensation other than a "thank you" letter to include in their files, if they so chose, that stipulated participation in the study. Fifteen (44%) were in the Army, 12 (35%) represented the Air Force, 6 (18%) were in the Navy and one (3%) was in both the Army and Air Force. The ethnicity of the group included Caucasian n=24 (71%), African American n=4 (12%), Hispanic n=4, (12%), Asian n=1, (3%), and Mexican-American (subjects designation in other category) n=1 (3%). The sample represented both enlisted and officers however most n=23 (68%) women were officers.

The women were deployed to a variety of combat and humanitarian missions. They included: Desert Storm (n=14, 41%), Panama (n=3, 9%), Bosnia (n=2, 6%), Haiti (n=1, 3%) and 14 other sites (41%).

### Procedure

Potential participants were either identified by their commanders, were suggested by other participants, heard about the study from others, or were approached by one of the co-investigators on the study. Presentation and solicitation of volunteers was made at reserve meetings by the Principal Investigator (PI) of the study. A nursing director of a women's health clinic in a Veterans Administration Hospital recruited participants by flyer and word of mouth. Active duty military co-investigators recruited by networking. Participants were also referred by other military women who had participated in the study or had heard about the study.

Considerable restraint was present within the community of military women. Confidence and trust were imperative. Many women needed additional assurance, other than the consent forms, that the information would be kept confidential.

The interviews were conducted in at least three cities, one military base, two military hospitals, and two reserve bases across the central and eastern part of Texas. Women were interviewed singularly in a private area either in a small office at their reserve center, command site, or their homes (six). The women completed at least one consent form, multiple consent forms in some instances as required by different participating agencies, and a demographic form (Appendix B) including such items as age, place of deployment, unit, rank, menstrual history, and changes noted in menstrual cycles. They were then interviewed either

by the co-investigator or the research assistant trained in interviewing techniques. The interviews were transcribed. All interviews were read by the co-investigator and research assistant for areas of expansion or clarification. Transcribed tapes are kept in a locked cabinet. No identifiers were made on the tapes or demographic form to maintain confidentiality.

Additional information was obtained during a formal consultation with some of the military investigators (Army, Navy, and Air Force) and a qualitative research expert from the military. This information was used to validate and clarify the findings that were presented from the first 21 interviews. Additional personal experiences with hygiene issues were shared by two of the military investigators who had experienced deployment. This information was used to expand and refine the qualitative classification system from the QSR NUD.IST program.

#### Instruments

A researcher is the instrument in qualitative study (Leininger, 1985). Interviews were conducted to identify personal hygiene needs and concerns that women in the military experienced when they had been deployed/sent to hostile environments.

The following questions were used for the first interviews and then expanded as categories and themes became more developed. The following questions were asked, but not necessarily asked in the order identified, and were often expanded upon as necessary.

- What was your experience during combat with cleansing the body?
- What was your experience during combat with your menses?
- What was your experience during combat with trying to protect yourself from infection?

- What would you do in the same way or differently, if faced with a combat situation?
- What recommendations regarding feminine hygiene practices would you make for women in combat situations?

Additional questions included what information was given to them and what items they brought with them. How those decisions were made was also queried. Also, they were asked about particular practices related to hygiene such as delay in changing pads or tampons, disposal, etc. Additional information was often volunteered by the participants. Interview information obtained with participants was later validated with subsequent interviews. For example, one woman was told she could take depoprovera "to stop her menses." This experience was then included for validation in subsequent interviews. No further participants reported this practice.

In order to conduct the analysis, discussion about the individual interviews would take place with the research assistant approximately one week of the interview. Since clusters of interviews would often be conducted in order to provide for more expedient use of the researcher's and participants' time, the discussion could involve more than one interview. Major topics would be discussed at that time. Any difficulties with interviews either in the method or findings would be reviewed. Both the research assistant and the Co-Principal Investigator (Co-PI) conducted interviews and discussed these with the other. Second, hard copies of the interviews were read by the Co-PI and notes taken of the material. Third, the interviews were placed into the QSR NUD.IST program distributed by Sage Publications. In order to prepare for programming the data, discussion occurred between the Co-PI and research assistant as to the nodes of the data. The internal consultant also provided advice at

this level of analysis. Fourth, the information was shared with the PI, the external consultant, LT COL Regina C. Aune, USAF NC, and the military investigators on the grant.

### Data Analysis

After the first 21 interviews a review was planned for feedback and planning with the military co-investigators, a military consultant, a qualitative research expert, and research assistant. The military personnel captured additional personal experiences and validated the development of the initial QSR NUD.IST data layout. See the appendices for the categories developed. The military women added more information on the structure of the toilets and provided more details about the showers. Expansion of the original data layout included concerns regarding eating and foods as it related to morale, elimination, and cultural variations. One of the investigators also identified a problem with women who had eating disorders as this usual form of coping would be challenged in a combat situation. Additional attention was also given to the area of relationships and sexual conduct. Minor clarifications and/or additions were made in other areas as well.

The findings are based on the retrospective recall of the participants during periods of high stress. Women stated that hygiene issues were not of major concern at the time as they were coping with life and death situations. Many of the participants had to be reminded that the study was only about hygiene issues and that other concerns could not be adequately addressed in this study.

### Findings

In answer to the specific questions that were asked military women the following responses serve to highlight their experiences with hygiene issues. Select quotes from the

participants are presented to address the issues identified by the question. They do not include all the responses to this particular question but serve as exemplars which provide a window into the thoughts and experiences of the women.

❖ What was your experience during combat with cleansing the body?

- ◆ “I would say I averaged once a week [shower] . . . But you are never actually clean. You never actually felt clean. Every time I put on my BDU’s I automatically feel dirty.”
- ◆ “We had a communal shower and we all took a shower in front of each other.”
- ◆ “. . . They tried to provide for us and our unit has been real good about that . . . even a mental stressor, because you know you are not as clean as you want to be . . . you even go without some of the food before you would give up that shower.”
- ◆ “Like I said if you are at least clean, you don’t feel like it is such a bad place to be as long as you have some of the hygiene to fall back on. But when you don’t even have that, or it is not the basics people have the tendency to get depressed and just don’t care for themselves either and then it is kind of a vicious cycle.”
- ◆ “The shower was one big shower and the shower was the size of this room, there were multiple heads in it, I would spend hours in the shower cause there was hot water in it.”

❖ What was your experience during combat with your menses?

- ◆ “I didn’t have a real problem. I don’t have a real heavy period. It has never been a problem still.”



- ◆ “You get to where you package them up, put them in a bag and take home a lot of dirty sanitary napkins cause you don’t want to throw them in the field . . . there are a lot or rodents and everything and you don’t want to put anything out in the open where a rodent could get into.”
- ◆ “I started my period when I was out in the field and I soiled through my pants. The blood went right through my pants. It was quite embarrassing . . . and I just tried to walk with my legs together so no one could see.”
- ◆ “. . . you felt you were smelly all the time. That wasn’t the case but women would feel dirty when we were on our period so it was kind of stressful. Those three or four days, whenever you’re on your menses, you are like constantly going to the bathroom and clean yourself and make sure you are OK and it was just a stress to think you are sweating all the time, that you don’t have enough time to go and take a shower . . . ”
- ◆ “. . . my cramps got a lot better because, since I was exercising so often.”
- ◆ “And that is normally too where you end up using pads and tampons both just in case . . . because you couldn’t always tell when you were going to get a chance to go to the restroom.”
- ◆ “In flight you wear double protection. All the time in flight. And with the C130's there is a cartoon and you bring your own zip lock bag to put your waste in . . . ”
- ◆ “. . . I mean I have known that there are changes I have to expect in my own body . . . high stress within the deployment and getting over there.”

- ❖ What was your experience during combat with trying to protect yourself from infection?

The following statement was made by a military woman serving in Cuba during the humanitarian mission.

- ◆ “Everybody got yeast infections. Actually Monistat® was the drug of the day ... I mean it was boxes and boxes ... there were some people that got a little promiscuous over there and they did have that problem but it was because they were being promiscuous and the weather.”

Statements from other settings included:

- ◆ “I had a couple of yeast infections. It is pretty common when you are out in the field that women come back and have a yeast infection.” In response to how dealt with it stated, “baby powder. Trying to keep your peri-area dry, changing your underwear and anything like that you can do.” “You don’t want to wear nylon.”
- ◆ “It is real hard to change your underwear because you are afraid that if you put your boots down in the middle of the night, something is going to crawl in your boots . . . if you tried to go in the porta-potty and change your underwear you weren’t able to do that because you were falling over and there wasn’t enough room.”
- ◆ “We probably had a lot of UTI’s simply because, I am lucky as I came out without one, being that I would not drink as much as I should because I didn’t want to use the port-potty anymore.” (UTI=urinary tract infection)

◆ “I had a lot of trouble, I would be standing there trying to get everything off, and your pants are fairly tight, and then get them down, and instead of sit-I would put one hand back like this and hold onto the door to try and squat standing up to pee rather than sitting down on it. The seat area was covered with urine and feces and I had not desire to sit down there . . . so trying to stay clean as possible was my goal.”

◆ “Dehydration is the biggest problem when you fly.”

◆ “Every people would share stuff with you if you get into trouble and you needed something.”

❖ What would you do in the same way or differently, if faced with a combat situation?

This statement was made by a woman who was active in the field:

◆ “A lot of my friends wore “depend” undergarments when we are out in the field. Cause the frequency of getting to use the bathroom wasn’t available”

This military woman was sent to Panama during her pregnancy and stated:

◆ “If I had know the risks I probably hadn’t gone being pregnant . . . But, when I came back I was quite frightened about some of the things that I had been exposed to.”

The next statement reflects a common concern made by a number of women in relation to physical exams and especially the gynecological examination which was not conducted as part of their deployment examinations.

◆ “. . . they relied on your 5-year physical which, for me, I was going to be due when I got back, so probably would have been a good thing for them to have

done it before hand and they didn't really."

The issue of abortions was related by a community health nurse who was intimately involved in providing information and guidance to women since they often came to her for advice. She stated:

- ◆ "... did the abortion thing . . . Some of them would try drinking Tylenol with warm beer that will cause such abdominal cramps that they would start to bleed. Another person got hold of a bulb syringe and filled it with liquid detergent and inserted it and I guess the chemical would make them bleed also, I heard, I don't really know what this person did specifically but this is the things that I heard. Another thing was using hangers."

It was often difficult for the women to manage keeping themselves and their environments clean. One woman observed that she felt women were more concerned about this than the men.

- ◆ "Waste and hand washing just wasn't enough."
- ◆ "Need to have a waste receptacles. If you have a porta john you got to have a waste receptacle. That is just ludicrous not having one . . . or plastic bags."

In reference to birth control pills:

- ◆ "That is the one gripe that I do have . . . I still don't understand why, when a woman says, listen I am going to be deployed for over six to nine months please give a supply of a full years supply rather than the traditional three months."

In reference to the second research question about recommendations the women had some very practical and helpful suggestions. They related to availability of products,

information and personal sharing:

Availability involved what they would bring and what they would purchase at the site. Some women had difficulty with supplies, others supplied their tentmates, and others were prepared. Some of the comments include:

- ◆ “I wouldn’t ask a man to buy me a box of tampons.”
- ◆ “I guess what you do you try to make sure, like the Army or the engineers that you get to be friends with them so they will make sure they can get your shower facility set up or work with the people . . . ”

Two items stand out for their prevalence in the women's recollections and recommendations. They are handi-wipes and minipads. Both were used creatively and for a variety of functions. Tampons were used creatively as well.

- ◆ “. . . take a lot of handi-wipes, lots and lots, just to stay clean.”
- ◆ “Be mentally prepared for it. . . And panty shields because that helps a lot. I found that using panty shield will prevent, first you will feel more comfortable during the day, and second stains will be prevented in your underwear, and if you have these individual wrapped panty shields, you can always put them in your pocket so if you don’t find toilet paper, you can use that.”
- ◆ “I bring a supply of tampons and pads too. Sometimes you can use them for things to . . . tampons for a bloody nose.”

The providing of information was seen as very important. Much of the information was shared by woman to woman or by experienced combat veterans to others. The network was usually informal.

- ◆ “Spend more time in educating people in what really to expect because unless you have been to something like a week of C-4 you would know it is not going to be like a normal day in the park.”
- ◆ “So urinate and have a BM whenever you can regardless of the situation and stay clean and take what you need for at least 30 days.”
- ◆ “Don’t stop drinking water because you don’t want to have to go to the bathroom.”
- ◆ “Talking to people who have done it and really get a sense of what is important to take.”
- ◆ “...cotton, staying away from nylon. Cotton is more absorbent. Cotton bras and stuff.”

The questions asked of the health care professionals included what information would you provide women about feminine hygiene practices; what is the best way to manage feminine hygiene in a combat situation; and how would you tell a woman to manage such problems as irregular bleeding, cramps, tampon removal?

Three of the informants provided direct health care to women and found that they answered questions informally and were frequently asked questions about menstruation. Some of the non-health professionals also identified that they were glad when they had women in their tents who had this knowledge so they could ask these questions.

The informant who staffed the clinic felt that women had easy access to medical care if it was needed. Most of the other participants felt that it was only there for more acute types of problems. Cramps would “have to be pretty bad” to use the services of the clinic.

One of the branches purposefully did not utilize medical services as there was a chain of command that highly discouraged minor complaints. One of the participants stated "here she is holding on, not seeking care, gynecological care, and then having . . . could have been a tubal. So that was pretty distressing to most of us. After we had figured it out. And I think some of the privacy was . . . her protection and some of it was this enormous hoop we had to jump through to get care." Women often self treated and carried a variety of medical supplies for this purpose. One woman said "A lot of people came with a lot of stuff to take care of themselves and that can get to be pretty dangerous too. People showed up with antibiotics and little medicine kits and then you don't know what they are doing."

### Themes

Female hygiene affected women's attitudes, practice, work, morale and coping. There were six themes that emerged from the data that describe this experience. They include:

1. Variation in response to environment related to hygiene

Women experienced varied response to the environment in which they were located. Some reported it being like "camping" and you just go with it. Others found it distressful and difficult to adjust to. They reported significant problems with privacy, sanitary conditions, facilities, and smells.

2. Location and condition of facilities affected hygiene practices

When facilities were not available, clean, private, and/or safe women reported holding of urine and feces. They also reported using multiple sanitary products to insure "safety" against accidents. Both of these practices can lead to increased risk of infections including urinary tract infections and vaginal infections. They can also decrease work output as women

suffer the discomfort from such things as constipation and holding.

3. Menses management was seen as difficult when working

Women in all branches of the military reported difficulties in managing menstrual supplies and consequences of menstruation when working. The availability of facilities also affected management practices.

4. Unmet basic hygiene needs affected morale

Women who felt dirty from being unable to bath frequently enough due to sweating or menses reported the importance of showers and bathing in coping with the difficulties of combat.

5. Attitudes of commanders and co-workers affected coping

Men, both as commanders and co-workers, were important in how women felt about themselves. Those that provided support to use facilities more often or protected the women from embarrassment were seen in a very favorable light. Commanders that were unaware of the women's needs were seen as problematic and insensitive. Women experienced various forms of sexual abuse and harassment from their commanders from rape to side comments and negative attitudes. These experiences were identified as leading to long term problems.

Women did expect to do equal work but often found it difficult when on their periods without some modification of the work schedule to allow for menses management. They felt that they were as strong as the men emotionally, if not stronger but were not given credit for their stability.

6. There is a code of silence surrounding women's needs

Women did not feel comfortable confronting commanders about their hygiene needs.



Often this was done by more seasoned and mature women. They also did not feel like their voices would be heard if they made observations about providing for their hygiene needs. In the area of sexual harassment and abuse they often tried to make a statement but were not listened to or acknowledged. Sexual activity was not addressed in many units but affected morale. In units where the code was set not to engage in extramarital behavior and firm adherence to the policy practiced there seemed to be more of a sense of unity.

### Conclusions and Recommendations

Information from the interviews is being used to develop a questionnaire, The Combat Female Health Practices Questionnaire (CFHPQ). Review of this questionnaire in its preliminary stages has been conducted with some of the military co-investigators. A nurse educator who completed a post-doctoral fellowship in instrument development, is assisting with the structure of the questionnaire. It will be pilot tested on a sample of 30 women to determine reliability. This questionnaire will be distributed to approximately 1000 women combat experienced military women.

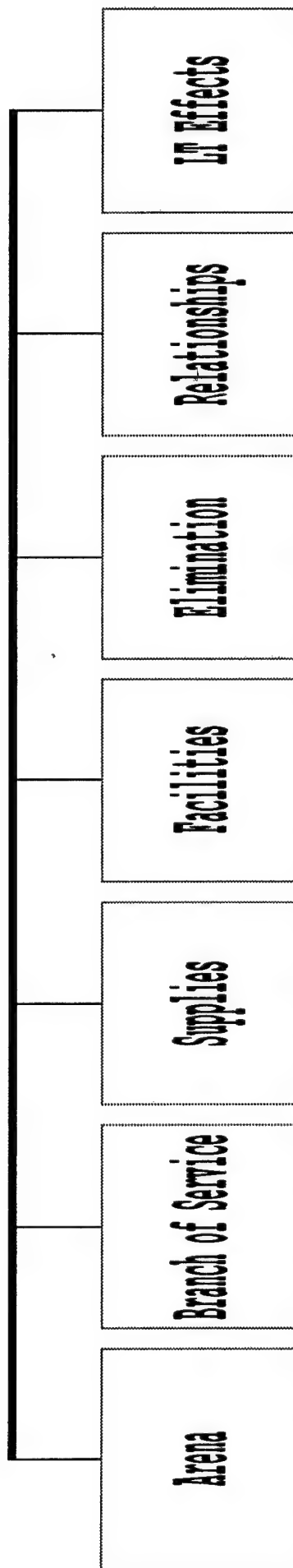
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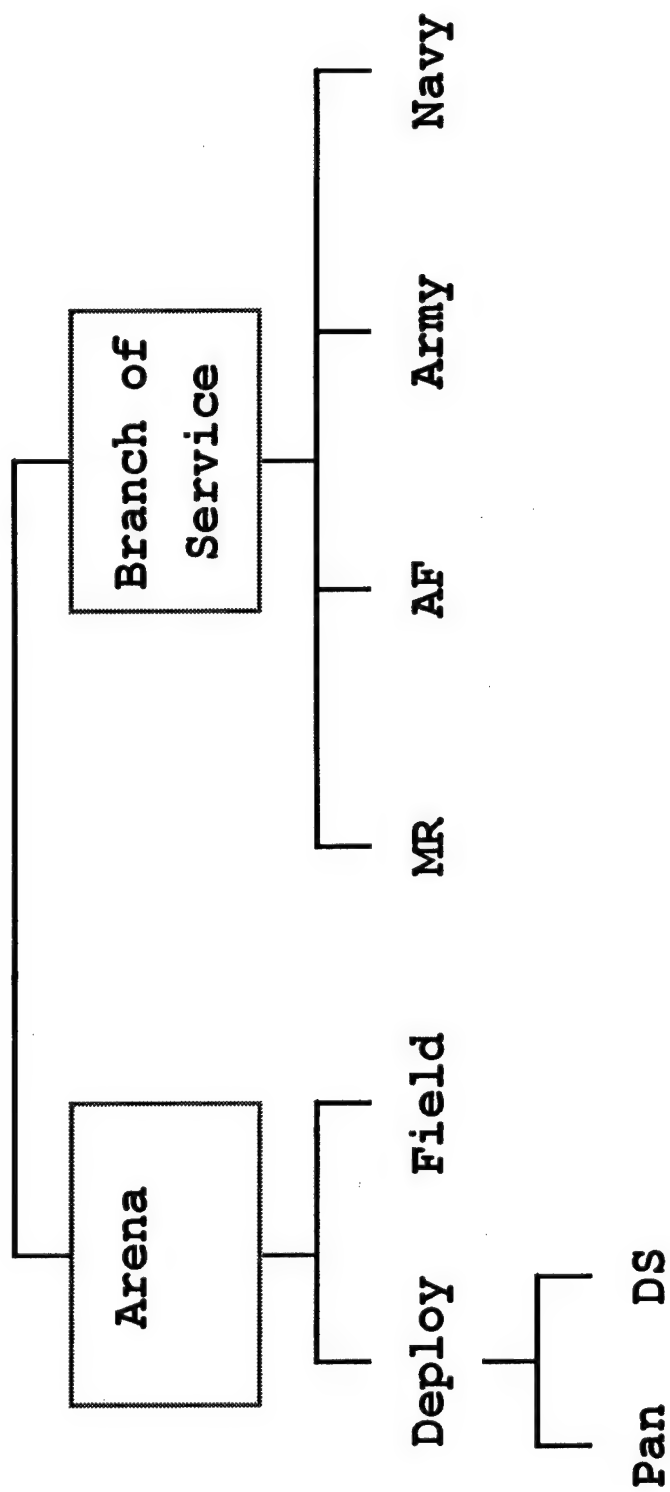
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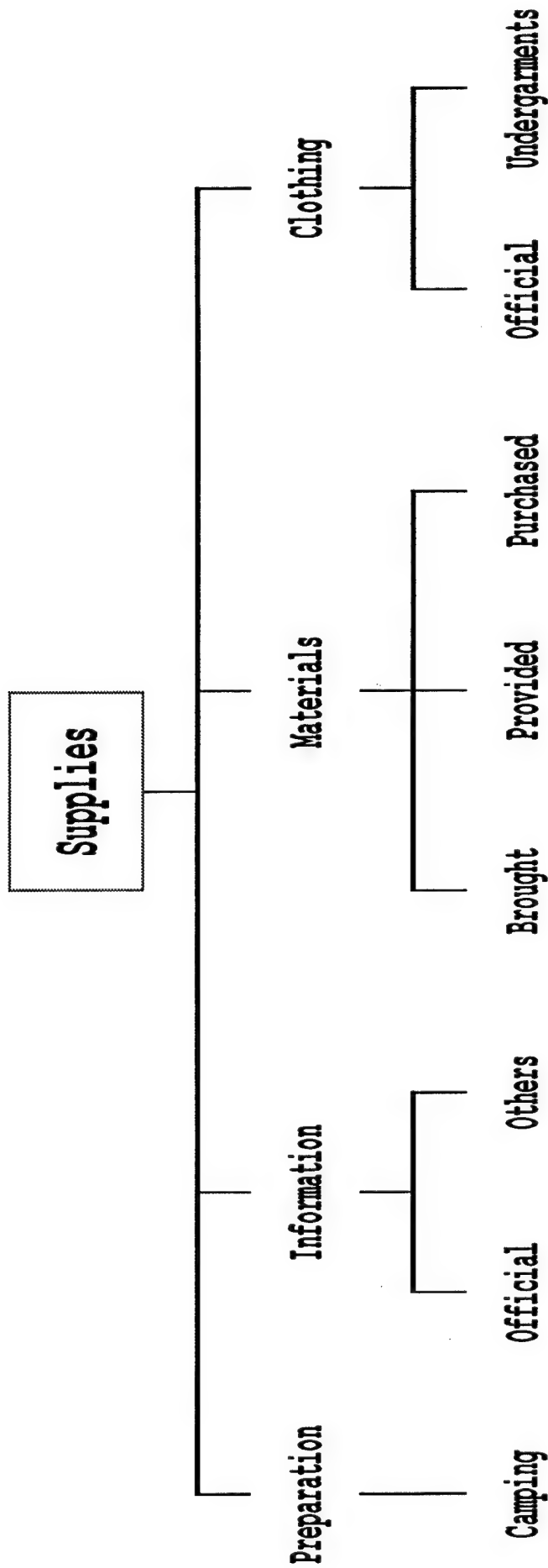
## Appendix A

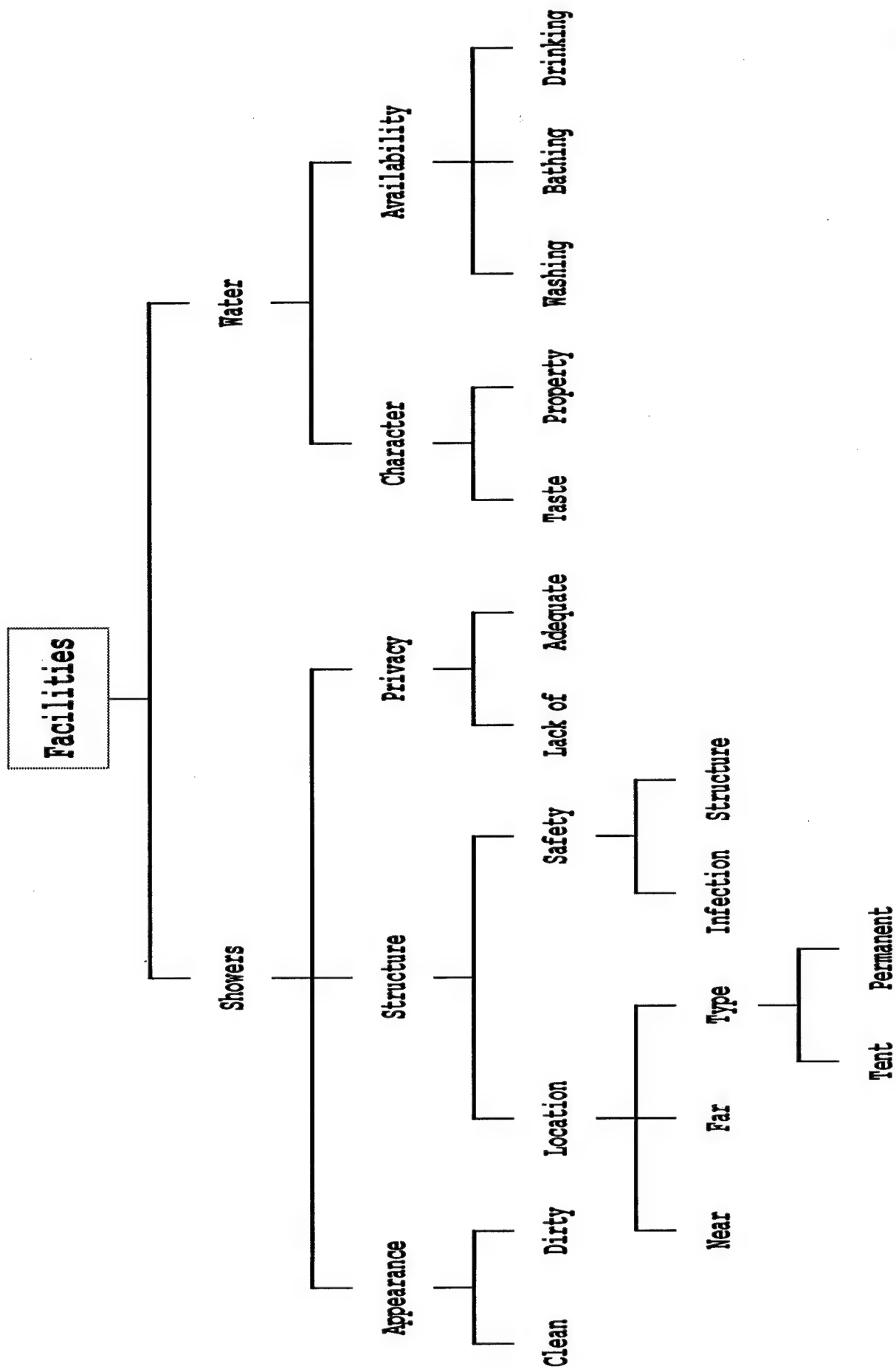
### Nodes

# Women's Hygiene in Combat Situations



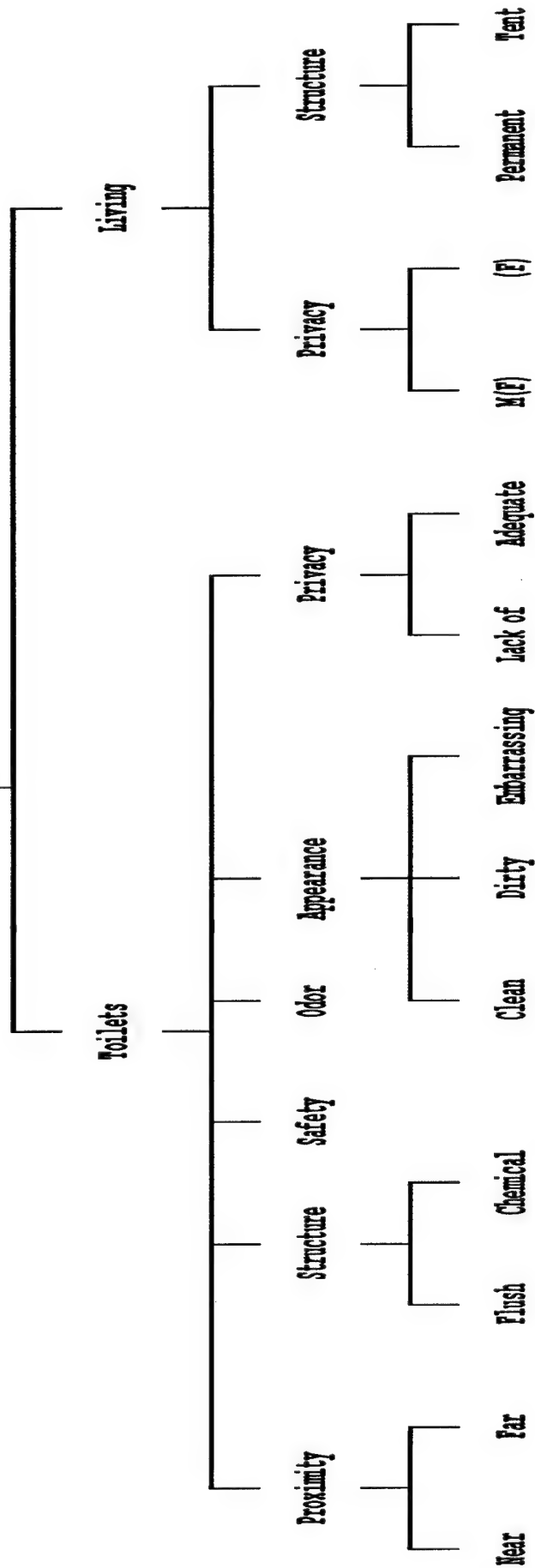


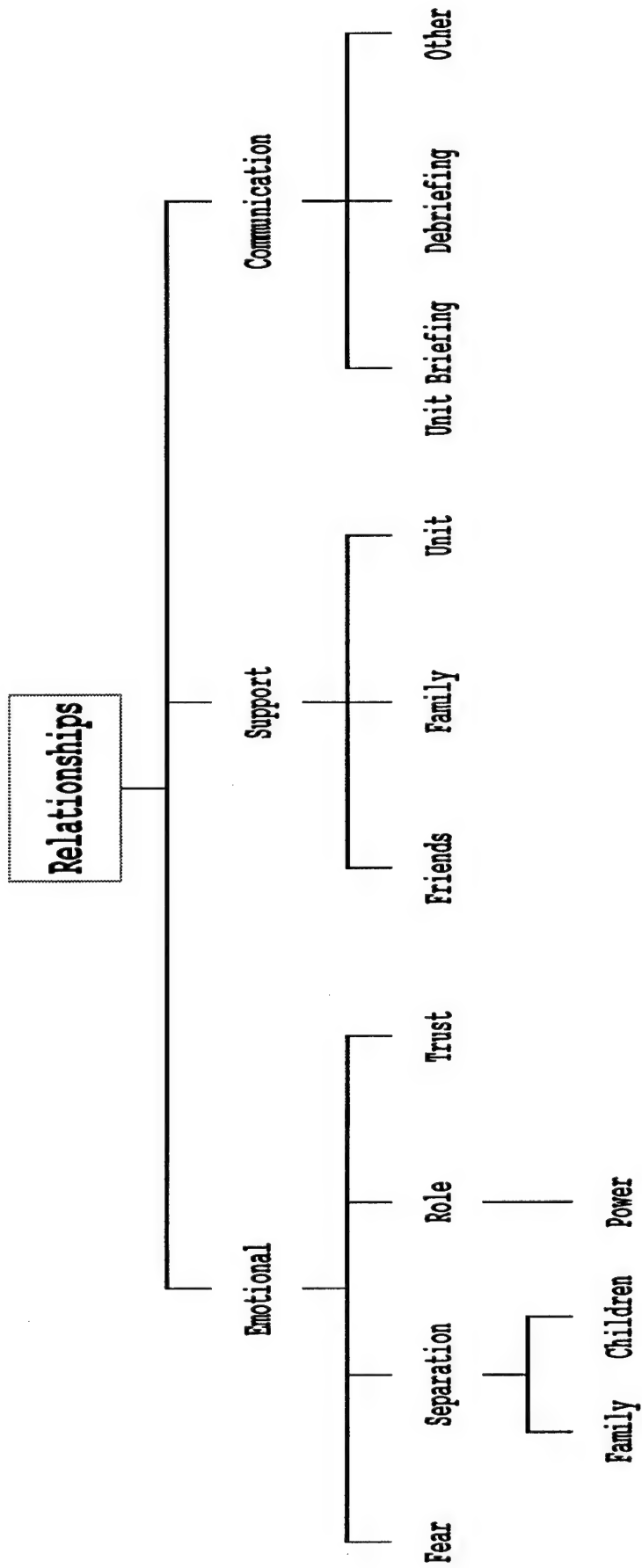






**Facilities  
(Cont'd)**





**Relationships  
(Cont'd)**

**Sexuality**

**Femininity**

**Birth Control**

**Behavior**

Body

Dress

Other

Meds

Abortion

Pregnancy

Promiscuity

Faithful

Nails

Make-up

Lingerie

Magazines

Depo

OCP

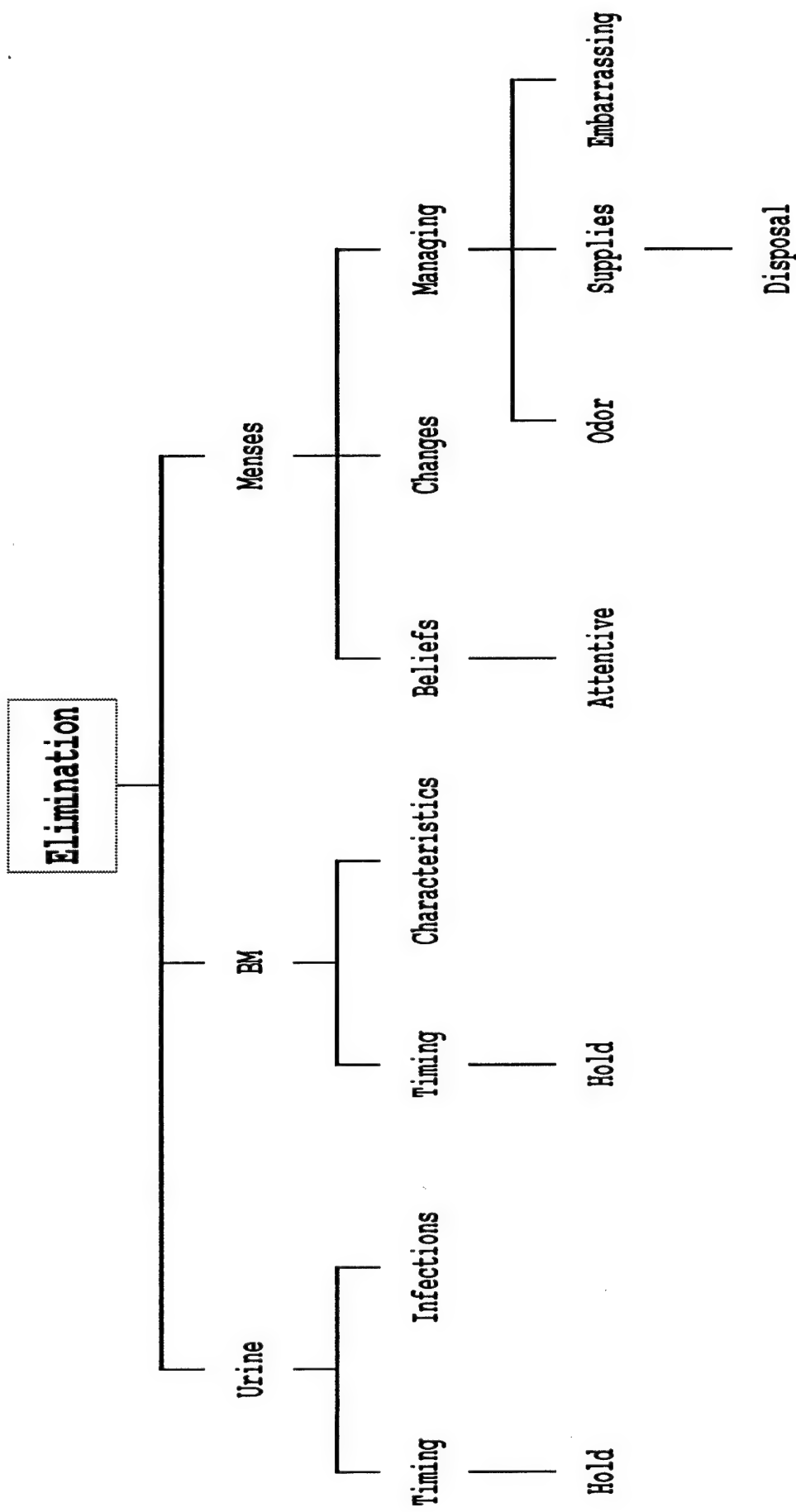
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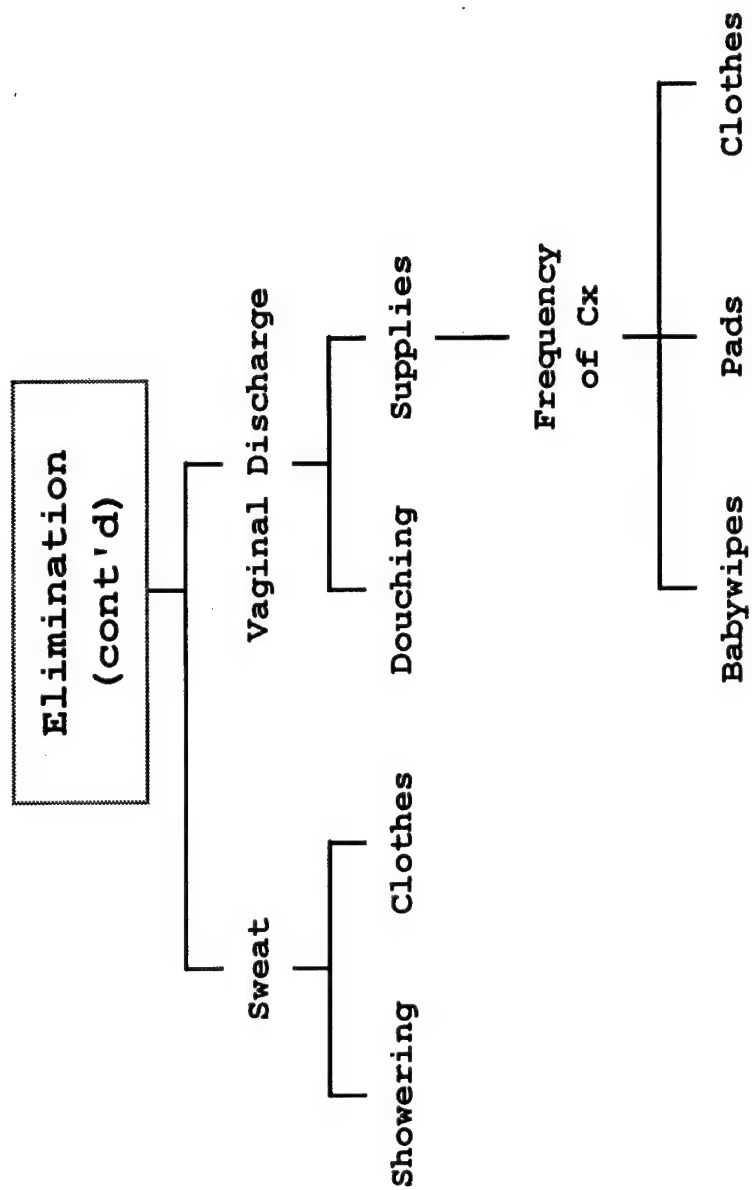
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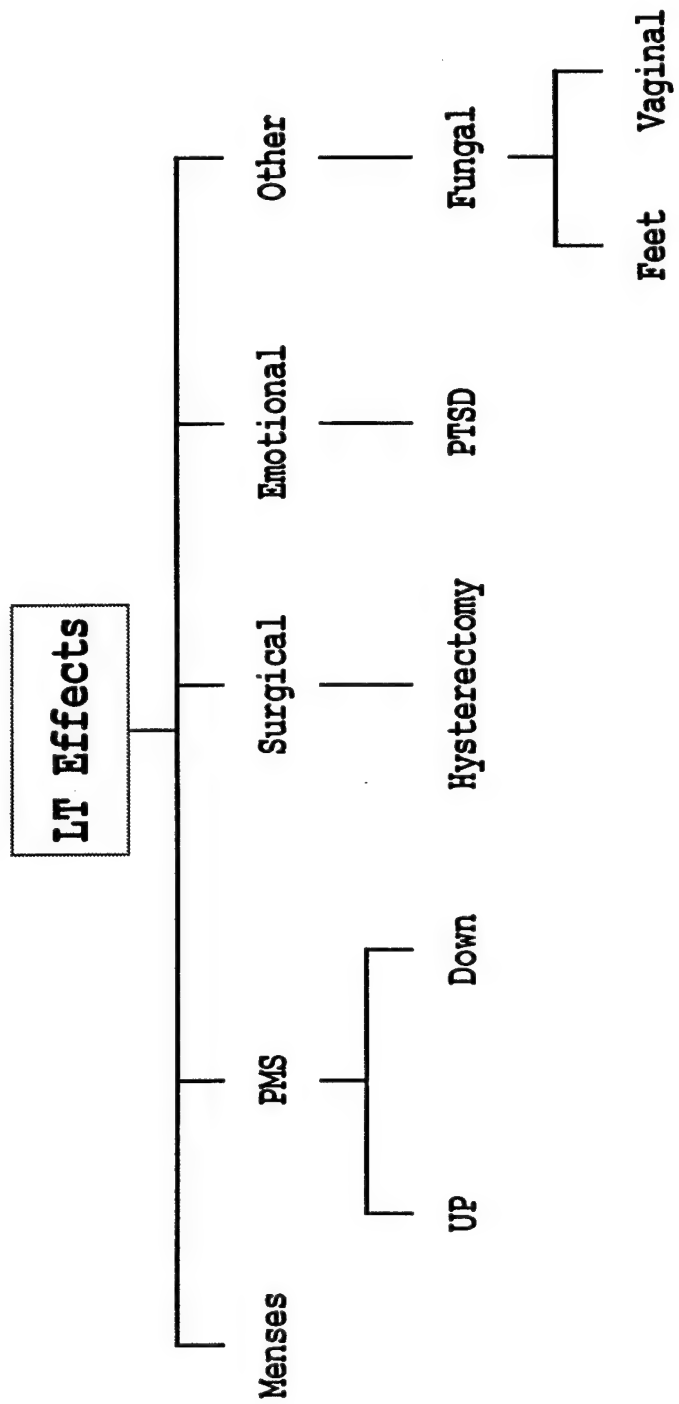
Visability

Acceptance

Discomfort







## Appendix B

### Hygiene of Deployed Military Women: A Demographic Profile

## HYGIENE OF DEPLOYED MILITARY WOMEN: A DEMOGRAPHIC PROFILE

### A. DEPLOYMENT (Circle appropriate areas)

1. Have you ever been deployed? \_\_\_\_\_ No \_\_\_\_\_ Yes
2. If Yes, please complete following (Circle all that apply):
 

|              |         |         |             |
|--------------|---------|---------|-------------|
| Bosnia       | Panama  | Korea   | Haiti       |
| Desert Storm | Somalia | Vietnam | Other _____ |
3. Please specify for each deployment the following \*\*:
 

|   |   |
|---|---|
| Location _____<br>Year _____<br>Length of deployment (months) _____<br>Deployed Unit _____ Duty Title _____ | Please specify for each deployment the following **:<br>Location _____<br>Year _____<br>Length of deployment (months) _____<br>Deployed Unit _____ Duty Title _____ |
|---|---|

**\*\*IF MORE THAN 2 DEPLOYMENTS, PLEASE COMPLETE ON BACK**

### B. MILITARY

4. a. Check Appropriate Line \_\_\_\_\_ USA \_\_\_\_\_ USN \_\_\_\_\_ USMC \_\_\_\_\_ USAF \_\_\_\_\_ COAST GUARD
- b. Check Appropriate Line \_\_\_\_\_ Active Duty \_\_\_\_\_ Reserves \_\_\_\_\_ Retired
5. Assignment/Station \_\_\_\_\_
6. Rank \_\_\_\_\_
7. SSI/MOS \_\_\_\_\_
8. Position Title \_\_\_\_\_
9. Years in service \_\_\_\_\_

### C. PERSONAL

10. Age \_\_\_\_\_
11. Marital Status (Circle one):
 

|         |          |                               |
|---------|----------|-------------------------------|
| Married | Divorced | Separated                     |
| Single  | Widow    | Living with Significant Other |
12. Ethnicity (Circle one):
 

|           |                 |                        |
|-----------|-----------------|------------------------|
| Hispanic  | Afro-American   | Asian/Pacific Islander |
| Caucasian | Native American | Other _____            |
13. Religion (Circle one):
 

|          |           |       |              |          |
|----------|-----------|-------|--------------|----------|
| Buddhism | Judaism   | Islam | Christianity | Hinduism |
| Taoism   | Shintoism | None  | Other _____  |          |

### D. GYN

14. Age at menarche (first menstruation/period) \_\_\_\_\_
15. Cycle History: (Circle one 1=low level, 5=high level)
 

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| a. Predictability of onset                         | 1 | 2 | 3 | 4 | 5 |
| b. Predictability of duration                      | 1 | 2 | 3 | 4 | 5 |
| c. Predictability of menstrual symptoms            | 1 | 2 | 3 | 4 | 5 |
| d. General Comments (i.e. length, heaviness) _____ |   |   |   |   |   |
16. Describe Cycle History in the Past Year \_\_\_\_\_
17. Describe, as appropriate, changes of predictability in menses noted within first year after deployment. \_\_\_\_\_
18. Menstrual Symptoms in the past year:
 

|              |       |
|--------------|-------|
| Before _____ | _____ |
| During _____ | _____ |
| After _____  | _____ |
19. Medications taken before and after deployment. (examples BCP, hormones, NSAID-non Steroidal *Anti-Inflammatory Drugs*) \_\_\_\_\_
- Other Treatment (heat, herbs, massage) \_\_\_\_\_
20. Number of Pregnancies \_\_\_\_\_
21. Number of Children \_\_\_\_\_
22. Ages of Children \_\_\_\_\_
23. Number of children delivered before deployment \_\_\_\_\_
24. Children delivered after deployment \_\_\_\_\_
25. Any major or minor reproductive surgery? \_\_\_\_\_ No \_\_\_\_\_ Yes
- If Yes, please specify \_\_\_\_\_



## Appendix C

### Meeting Abstracts and Personnel

## **Combat readiness: Hygiene issues related to military women**

Barbara Sheldon Czerwinski, PhD

Diane W. Wardell, PhD

The University of Texas-Houston

### **Introduction**

Military personnel need to be prepared for combat readiness at all times, as this is central to the mission of the United States Armed Forces. Combat readiness in military women creates a unique set of health care requirements. For adult females, feminine hygiene practices constitute health care practices based on physiological necessities for the management of elimination products, including urine, feces, and menstrual discharge.

### **Purpose**

This study is designed to investigate and to make recommendations for female health practices carried out in combat and non-combat environments by military women. In order to determine the best procedure(s) for maintaining feminine hygiene in combat environments, it is necessary to explore past and current practices and to obtain the recommendations of health care professionals. Both quantitative and qualitative research methodologies will be used to explore feminine hygiene practices.

### **Conclusion**

Therefore, what is found to be or not to be effective feminine hygiene practices will then be incorporated into the recommended requirements.

Funding source: Defense Women's Health Research Program Grant #DAMD 17-96-2-6024

### **Poster Presentations**

03 October 1997

The University of Texas-Houston Health Science Center  
Third Annual Research Day, Houston, Texas

05 June 1997

The Society for Menstrual Cycle Research 12<sup>th</sup> Conference  
University of Illinois at Chicago, Chicago, IL

## Personnel

Personnel receiving pay from this effort are the following:

Barbara Sheldon Czerwinski, PhD

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Kathleen Pitts, BSN

Portia Bartonico, BA